



**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
087696-986	03/03/97	DEFOURNY	08938

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PMS1/0511

EXAMINER
LEE, J

ART UNIT	PAPER NUMBER
3672	

DATE MAILED: 05/11/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

08/696,986

Applicant(s)

Defourny

Examiner

Jong-Suk (James) Lee

Group Art Unit

3672

☒ Responsive to communication(s) filed on Mar 8, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 47-55 and 59-69 is/are pending in the application.

Of the above, claim(s) 49, 61, 62, and 66 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 47, 48, 50-55, 59, 60, 63-65, and 67-69 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Mar 8, 1999 is ☐ approved ☒ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Serial Number:08/696,986

Art Unit: 3672

DETAILED ACTION

1. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 3672.

2. The amendment filed on March 8, 1999 has been entered.

3. The numbering of claims is not accordance with 37 CFR 1.126. The original numbering of the claims must be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When claims are added, except when presented in accordance with 37 CFR 1.121(b), they must be renumbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 1-20 in amendments filed 3/3/97, 10/5/98 and 3/8/99 have been renumbered claims 47-66 and newly added claims 21-23 in amendment filed 3/8/99 have been renumbered claims 67-69 and treated as such.

Affirmation of this should be followed by appropriate amendment.

Serial Number:08/696,986

Art Unit: 3672

Drawings

4. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on March 8, 1999 have not been approved. The proposed corrections to Figs. 7B, 7C, 12B, 12D and 21 are approved. However, the proposed reference numeral for the cross section lines in Figs. 3B, 6A and 7A, such as 3B, 6B and 7B are not approved because the lines should be designated by **Arabic or Roman Numerals, 37CFR 1.84(g)(3)**. The proposed cross hatching of the elastomeric vibration rings (2004, 2005) in Figs. 12A and 12C are not approved.

5. The corrected or substitute drawings were received on March 29, 1999. These drawings are **formal**. The corrected cross hatching for the elastomeric vibration rings (2004, 2005) in Figs. 12A-D is not shown. Therefore, they are not acceptable. Correction is required. Figs. 7B, 7C and 21 are formal and acceptable.

Claim Objections

6. Claim 48 is objected to because of the following informalities:

In line 2: "a drill bit" should be --the drill bit--.

Appropriate correction is required.

Serial Number:08/696,986

Art Unit: 3672

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 47-55, 59-62 and 67-69 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claims 47, 67 and 68: The limitation, "a resiliently deformable connecting member.....for tilting the first member with respect to the second member" in lines 4-7 respectively renders the claim confusing because the resiliently deformable connecting member does not constitute the function of tilting the first member with respect to the second member. It is suggested to be --for allowing tilting-- in order to clarify the claim limitation.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

Serial Number:08/696,986

Art Unit: 3672

1 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or
2 on sale in this country, more than one year prior to the date of application for patent in the United States.
3

4 10. Claims 47, 48, 50, 52-54, 59, 63 and 64 are rejected under 35 U.S.C. 102(b) as being
5 anticipated by Frear et al.

6 Frear et al. disclose a tiltable drill string connection that includes resilient deformable
7 members (77, 45) and a transfer member (50, 52, 85) for transferring torque between the
8 connected drill string members (12, 13). Frear et al. also show a retainer member of threaded lock
9 ring (60). With regard to claim 59, Frear et al. show connecting passageway (14, 28) and which
10 seal (45) prevents the escape of fluid between the members.
11

12 11. Claims 47, 50, 51, 54 and 63-65 are rejected under 35 U.S.C. 102(b) as being anticipated
13 by Black.

14 Black discloses a flexible joint for drill string comprises a transfer member (27) and a
15 resilient deformable member (23) for transmitting weight and torque between a first and second
16 members (19, 20). Transfer member includes a series of radial teeth on the first member (19) and
17 recesses in the second member (20) at the portion wherein the transfer member secured at the
18 socket portion (22) of the drill string as depicted in Fig. 2. The second member (20) formed with
19 a connecting means (26, 28).

Serial Number:08/696,986

Art Unit: 3672

12. Claims 47, 48 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Bodine. Bodin discloses a drill bit coupled to an orbiting mass oscillator comprises a first member (11), a second member (16) and resiliently deformable connecting member (22) between the first and second members.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frear et al.

Although Frear et al. fails to disclose the connecting member having a hydrogenated nitrile rubber having a Shore A hardness of at least 80, it is well known expedient within the drilling art to utilize the elastomeric material such as the elastomer having a Shore A hardness of at least 80 for resiliently connecting member/ the elastomeric seal in order to reduce extrusion under load. Further, such modification would have constituted an alternative means/ obvious matter of design choice well within the ordinary skill in the art.

Serial Number:08/696,986

Art Unit: 3672

1 15. Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Frear et al. in view
2 of Leroy.

3 Frear et al. disclose the invention substantially as claimed except for a flexible pipe
4 between the passageways of the connecting members. Leroy teaches to provide a flexible pipe
5 (15) in the mud passage between a pair of articulating members so as to prevent leakage between
6 the members. It would have been considered obvious to one having ordinary skill in the art at the
7 time the invention was made to have provided Frear et al.'s connecting members with a flexible
8 pipe in the area of the passageway where the members meet in view of Leroy in order to prevent
9 the leakage of mud between the members.

10
11 *Response to Arguments*

12 16. Applicant's arguments filed March 8, 1999 have been fully considered.

13 i) Argument with respect to Frear et al.'s resiliently connecting member between the first
14 member and second member is more limited than the claim scope of claim 47 and 63. With
15 respect to the argument about the elastomeric spacer comprising of a hydrogenated nitrile
16 rubber having a Shore A hardness of at least 80, it is considered to be an alternative means
17 and/or obvious matter of design choice well within the ordinary skill in the art as set forth
18 in paragraph 14.

19 ii) Argument with respect to the rejection by German'639 reference is persuasive.

Serial Number:08/696,986

Art Unit: 3672

1 Therefore, the prior art rejection under 35 USC 102 is withdrawn.

2 iii) Argument about Black's connecting member between the first and second members is
3 more limited than the claim scope of claim 47 and 63.

4 iv) With respect to argument about Bodin's elastomeric connecting member between the
5 first and second members, applicant interpreted the bit (16) as the first member and the
6 plate (18) as the second member as recited on page 7, lines 5-6 in remarks of the
7 amendment letter. However, examiner considered the bit (16) as the second member and
8 the drill collar (11) as the first member in the claim 47.

9 v) With respect to arguments with respect to claim 60, applicant treated the secondary
10 reference as a primary reference by attacking Leroy's reference with the argument such
11 that Leroy lacks a teaching of a resiliently deformable connecting member.

12
13 *Allowable Subject Matter*

14 17. Claims 67-69 would be allowable if rewritten or amended to overcome the rejection(s)
15 under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

16
17 *Conclusion*

18 18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time
19 policy as set forth in 37 CFR 1.136(a).

Serial Number:08/696,986

Art Unit: 3672


1 A shortened statutory period for reply to this final action is set to expire THREE
2 MONTHS from the mailing date of this action. In the event a first reply is filed within TWO
3 MONTHS of the mailing date of this final action and the advisory action is not mailed until after
4 the end of the THREE-MONTH shortened statutory period, then the shortened statutory period
5 will expire on the date the advisory action is mailed, and any extension fee pursuant to 37
6 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,
7 however, will the statutory period for reply expire later than SIX MONTHS from the mailing date
8 of this final action.

9 19. Any inquiry concerning this communication or earlier communications from the examiner
10 should be directed to Jong-Suk (James) Lee whose telephone number is (703) 308-6777. The
11 examiner can normally be reached between the hours of 7:30AM to 5:00PM Monday thru
12 Thursday and every other Friday (second Friday of the bi-week). If attempts to reach the
13 examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell, can be
14 reached on (703) 308-2151. The fax phone number for this Group is (703) 305-3597.

15 Any inquiry of a general nature or relating to the status of this application or proceeding
16 should be directed to the Group receptionist whose telephone number is (703) 308-2168.

17
18 Jong-Suk (James) Lee *TL*

19 May 6, 1999


DAVID BAGNELL
SUPERVISORY PATENT EXAMINER
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